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## The Age of Online Instruction

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# The Age of Online Instruction

ACADEMIC LIBRARIANS have always recognized their role as teacher. But instruction has not always been a large part of public or special library work. In this age of online libraries, however, all librarians are online educators. This point was brought home at the 2002 annual Special Libraries Association (SLA) meeting in Los Angeles, which devoted multiple sessions to teaching online searching skills. Whether their constituents are college students, faculty, children, senior citizens, researchers, or corporate executives, librarians of all types flocked to the numerous sessions focused on helping users learn online resources.

## Science instruction

Even those who work in environments with a tradition of bibliographic instruction have developed new ways to teach online skills. Science librarians from several universities made presentations at a poster session devoted to the topic. (SLA members include many college and university librarians, particularly subject specialists such as science and engineering librarians.)

The best way to handle library instruction has been debated for decades. Libraries have tried semester-long credit classes, one day or half-day courses that cover online searching in general or special resources, or even shorter sessions on one or two resources tied to specific classes. Sometimes they have started with freshmen, often saving sessions on specific sources for upper-division or graduate students. The trend, judging from the science librarians at SLA, seems to be for library instruction to be short (an hour or so), offered to first- and second-year students and con-

tinuing for graduate students and faculty. The classes should be tied as much as possible to specific courses, covering a resource or two that will be immediately relevant.

## The short courses

The California Institute of Technology (CalTech) Library System has established an Education Team to coordinate teaching efforts among librarians. This includes, according to its poster team of Kathleen McGregor, Hema Ramachandran, and Dana Roth, "predicting the needs of our user group," planning, and marketing the courses. They take the immediately applicable approach to library instruction by offering one-hour class sessions on various class content.

In addition to specialized resources, the Education Team coordinates short sessions on non-subject-specific resources, such as the Web of Science. These general sources are rotated among librarians, but the Education Team assists with posting handouts on the library web page. According to the CalTech team, the courses most popular are on the Web of Science, patents, EndNote referencing software, Structure searching, copyright, and Quick Review.

Chemistry-focused sessions are attended by students in biology, engineering, and chemistry but assume a base knowledge of chemistry. SciFinder Scholar, Chemical Abstracts Service/STN's end user online system, is the most popular online service. Life sciences sessions include attendees from biology and other subject disciplines. Particularly important in these sessions is a comparison of selected features in different databases, comparing, for example, PubMed, Ovid Medline, Ovid Inspec, Ovid BIOSIS, Web of Science, and SciFinder Scholar (see [library.caltech.edu/learning](http://library.caltech.edu/learning)).

Integrating short, subject-specific online instruction into the classroom is also favored at the UCLA Science and Engineering Library. According to Marion Peters, science librarian, they partner with chemistry faculty to integrate "the basics of chemical information into

existing courses required by majors." This means that all chemistry majors at UCLA (more than 400 each year) receive information instruction from librarians through their required general chemistry laboratory course. SciFinder is taught in a subsequent organic chemistry course to about 170 chemistry majors annually.

## Virtual tours

Chemistry librarian Christina Keil and web master Steve Lawson have created a web site "virtual tour" of the most commonly used chemical property handbooks at the University of California-San Diego. The tour is designed so undergraduate chemistry students can discover where to find property data for their laboratory experiments, even when reference librarians are unavailable. Frequently asked questions are also addressed in a virtual tour web site of the Science and Engineering Library (see [scilib.ucsd.edu/welcome/index.html](http://scilib.ucsd.edu/welcome/index.html) and [scilib.ucsd.edu/corechem](http://scilib.ucsd.edu/corechem)). Chemistry faculty link to the library sites from their course web pages.

## Long term approaches

Short sessions have limitations, not only because of how much information can be conveyed but also in how much student involvement can be included. At Wright State University in Ohio, librarian Mary Lou Baker Jones uses small group interactions in a longer undergraduate course dedicated to chemistry literature. In one of the final class sessions, students in small groups identify resources to answer specific questions, share them with the class, and discuss "scenarios that call for evaluation or judgment in the process of using chemical information." An example of a discussion question is, "How do you decide whether or not to use a web site's information in a research project?"

Engineering students at the Colorado School of Mines (CSM) also get the longer-term treatment. Heather Whitehead, librarian, showed how CSM library instruction is integrated into the Engineering Practices Intro-



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## ONLINE DATABASES

ductory Course Sequence (EPICS). Instruction and orientation is offered to each EPICS team of five students plus instructors. The library provides worksheets on five research tools (such as the library catalog, a database, the Internet), and every student becomes an expert in one resource. Worksheets and instruction are tied directly to the course requirements.

Although handouts and even tutorials are available on each of these libraries' web sites, most of the instruction described above is traditional face-to-face instruction with librarians meeting with a class of students for an hour or more during the term.

### Online modules

Other universities are trying out technology to reach greater numbers of students. Drexel University information librarian Jenifer Baldwin and information services/sciences librarian Margaret Dominy propose to integrate chemical information instruction into the chemistry, chemical engineering, and materials engineering curriculum through a series of online chemical information modules that are integrated into undergraduate courses. My own grant from National Science Foundation to the University of Tennessee is focused on much the same thing.

Baldwin and Dominy propose to take existing chemistry assignments and integrate online instruction into them in ways relevant to each course. The ultimate goal is to administer assignments "as online modules, completed in a progression throughout the course, and including automatic assessment and tracking of students' progress." The online system instruction modules—created by librarians—will become part of the assignments provided by each instructor.

### Corporations

Online searching is a daily task for end users in business, and corporate librarians spend much of their time selecting systems, negotiating contracts, and arranging for or providing training. Latonya Jefferson of KPMG, LLP, spoke on the new challenge of information literacy as the roles of both users and librarians change. As in many corporations, KPMG's constituents are geographically dispersed, self-directed, and technically savvy. Information instruction must take these realities into consideration.

No matter how computer-literate they may be, corporate end users still face many problems on their way to information literacy. Jefferson pointed out several problems her end users have, including knowing the available resources; determining quality, credibility, and accuracy; comparing alternatives;

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and receiving proper training. Corporate information centers are not meeting all of these problems, but they can increase their visibility if their information literacy goals are aligned with their company's mission.

Stacey McKeever, digital archivist of Disney Online, serves high-level, multimedia software designers. Technical savvy does not, however, equal information literacy. But this type of user group doesn't want or need to spend much time on training. They do need help with understanding the many resources available to them and how to search systems. To serve this type of user, McKeever recommends short, written instructions on specific products as well as minitutorials.

Chris Kinghorn of Deutsche Bank AG in London said that bankers in her company must take training classes in online systems. Because their systems and the products change frequently, continual training is a big part of the information groups' responsibilities. Effective online searching skills are so important to the banking environment that information professionals have been able to demonstrate the direct importance of their training initiatives to the bank's mission and daily work.

### Vendor modules

The role of teacher is less common for corporate librarians, but some are now creating their own instruction courses for their constituents. More commonly, they are working with the in-

formation companies or online vendors that are developing web-based instruction modules.

Factiva has a beta version of its web instruction package, called eTrainer. Each of the five modules of eTrainer can be completed in less than an hour. One module provides introductory information about online searching; the rest focus on one or more Factiva functions or resources.

eTrainer is aimed at new users, especially former Dow Jones Interactive or Reuters Business Briefing customers who are making the switch to [factiva.com](http://factiva.com). The training modules are available free to Factiva users at [www.factiva.com/learning/etrainer.asp](http://www.factiva.com/learning/etrainer.asp). A bit of warning—the beta version was designed by an online training company for Factiva and is a bit talky and condescending for busy corporate end users. Most will want to jump to how to search, rather than hear introductory materials about the power of online searching or file structures. Factiva promises a revised version next year.

Another approach is for a company to contract with an information training company for customized courses. TFPL, a British publishing and information company, works with corporate librarians to develop online modules that help their end users learn information literacy skills. The modules can be customized and are sold on site licenses to companies. For more information, visit [www.tfpl.com/training/training.html](http://www.tfpl.com/training/training.html).

### Instruction is important

Because we are in a period of transition from print-based to online resources, information instruction is more important than ever. Many of our constituents were raised in a paper world and need help learning how to make the most efficient and effective use of online systems.

But age is not the only factor. Even students, raised in an online world, find the multitude of interfaces, advanced search features, and complexities of content confusing. They may consider themselves experts on Google or Yahoo but still miss out on the richness of content and features in research resources. The need to help them understand research resources has always existed, but in an online world, librarians of all types are finding new opportunities to teach.